Core chips to address below, full cores to USGS, Core Laboratory, Arvada, CO. Required samples must be washed, dried and delivered prepaid to: Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue	FORM NO. 22 R 10/0	9 SUBMiT I	N QUADRUPLICATE TO:		6,22,307	Lease Nam	e:		
Lease Type (Private) State Federals: Private Priva	MONT				6,22.601				
Application for Permit To: Drill X Deepen						Lease Type	(Private/State/Fe	deral): TW/ =	
Drill X Deepen Re-enter Well Number: #11H Operator: Kraken Operating LLC Operator: Kraken Operating LLC Address: 9805 Katy Freeway Suite 300 City: Houston State: TX Zip: 77024 Telephone Number: 281-658-4048 Surface Location of Well (auster-quarter and fedga measurements): N/A NEWN Sec 27 T28N R58E; 1060*FNL 2267*FNL Proposed Isail Deeph and Bottom-hole Location(s) if decitonal or holizontal well. TD 20,650*MD, 9,930*TVD NWINWS Sec 15 T28N R58E; 205*FNL, 550*FWL Sec 27 T28N R58E; 205*FNL, 550*FWL County, Roosevelt Country, MT Elevation (indicate GL or KB): 1980*GL Size and description of drilling/spacing unit and applicable order, if any: Formation at total depth: Anticipated Spud Date: 1280 acres (Sections 15 & 22, T28N-R58E)/Order 9-2019 Hole Size Casing Size Weight / Foot Grade (API) Depth Sacks of Cement Type of Cement 13 1/2 9 5/8 36 J-55 2000 642 See Attached 8 3/4 7 32# P-110 10469 672 See Attached 8 3/4 7 32# P-110 10469 672 See Attached 18 3/4 7 32# P-110 20650 563 See Attached 18 3/4 7 32# P-110 20650 563 See Attached 19 Centre of aftach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe multiprogram. See attachments for details Kraken Operating, LLC requests variance to not run open hole logs on the subject well. Offset logs can be found for the Charger Resources, LLC, W Knudsen #1, API 258852154500, Sec 28-T28N-R58E, Roosevelt Co, MT. BOARD USE ONLY Approved (date) MAY 3 0 2019 Permit Fee 150, 200 Sec 28-T28N-R58E, Roosevelt Co, MT. BOARD USE ONLY Permit Expires No. 3 1 218 Sec 240.00 Sec 28-T28N-R58E, Roosevelt Co, MT. BOARD USE ONLY Approved (date) MAY 3 0 2019 Permit Fee 5150-1200 Sec 28-T28N-R58E, Roosevelt Co, MT. Field Number: 2100-2585 Sc.106 Accomervation 2555 Sc.106 Accomervati					Private				
Ole IX Gas Other #114 Operator: Kraken Operating LLC Address: 9805 Katy Freeway Suite 300 City: Houston State: TX Zip: 77024 Telephone Number: 281-858-4048 N/A Suites Location of Well (parter-quarter and footage measurements): NENW Sec 27 T28N R58E, 1060° FNL 2267° FWL Sec 27 T28N R58E, 1060° FNL 2267° FWL To 20,850° MD, 9,930° TVD NWINW Sec 15 T28N R58E, 205° FNL, 550° FWL Size and description of drilling/spacing unit and applicable order, if any: Formation at total depth: Anticipated Spud Date: 1280 acres (Sections 15 & 22, T28N-R58E)/Order 9-2019 Bakken 13 1/2 9 5/8 36 J-55 2000 642 See Attached 8 3/4 7 32# P-110 10469 672 See Attached 8 3/4 7 32# P-110 10469 672 See Attached 8 3/4 7 32# P-110 20650 563 See Attached 9 Cescribe Proposed Operations: Describe Proposed Operations: Describe Operations Describe of attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program. See attachments for details R7 See Attached Describe Operations Des	Drill [V]					A PARAMETERS	er: A a	LAV O O DOM	
Operator: Kraken Operating LLC Address: 9805 Katy Freeway Suite 300 City: Houston State: TX Zip: 77024 Telephone Number: 281-658-4048 Surface Location of Well (quarter-quarter and footage measurements): NENW Sec 27 T28N R58E, 1060' FNL 2267' FWL Telephone Number: Discussion of Well (quarter-quarter and footage measurements): NENW Sec 27 T28N R58E, 1060' FNL 2267' FWL Township, Range, and Section: Sec 27 T28N R58E, 205' FNL, 550' FWL Size and description of drilling/spacing unit and applicable order, if any: Televation (indicate GL or KB): 1980' GL Size and description of drilling/spacing unit and applicable order, if any: Televation (indicate GL or KB): 1980' GL Size and description of drilling/spacing unit and applicable order, if any: Televation (indicate GL or KB): 1980' GL Size and description of drilling/spacing unit and applicable order, if any: Televation (indicate GL or KB): 1980' GL Size and description of drilling/spacing unit and applicable order, if any: Televation (indicate GL or KB): 1980' GL Size Casing Size Weight / Foot Grade (API) Depth Sacks of Cement Type of Cement 13 1/2 9 5/8 36 J-55 2000 642 See Attached 8 3/4 7 32# P-110 10469 672 See Attached 8 3/4 7 32# P-110 10469 672 See Attached 9 6 4 1/2 13.5# P-110 20650 563 See Attached 9 6 4 1/2 13.5# P-110 20650 563 See Attached 9 Conscible Proposed Operations: Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program. See attachments for details Franken Operating, LLC requests variance to not run open hole logs on the subject well. Offset logs can be found for the Charger Resources, LLC, W Knudsen #1, API 250852154500, Sec 28-T28N-R58E, Roosevelt Co, MT. The undersgread hereby certifies that the information contained on this application is rue and correct: Signed (Agent) Fries Sr. Regulatory Analyst Trile Sr. Regulatory Analyst Trile Sr. Regulatory Analyst Trile Sr. Regulatory Analyst Town chipa to address below. Mil cores to USGS, Core Laboratory, Arvada CO: Required samples must					_		M	IAY Z U 2013	
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Address: 9805 Katy Freeway Suite 300 City: Houston State: TX Zip: 77024 Telephone Number: 281-658-4048 Surfest excession of Well (quadre-quarter and footage measurements): NENW Sec 27 T28N R59E, 1060 FNL 2267 FWL Bakken Township, Range, and Section: Sec 27 T28N R59E, 305 FNL, 550 FWL To 20,650 MD, 9,307 TVD NWINW Sec 15 T28N R58E, 205 FNL, 550 FWL Size and description of drilling/spacing unit and applicable order, if any: 1280 acres (Sections 15 & 22, T28N-R58E)/Order 9-2019 Hole Size Casing Size Weight / Foot Grade (API) Depth Sacks of Cement Type of Cement 13 1/2 9 5/8 3 4 7 3 2# P-110 10469 672 See Attached Describe Proposed Operations: Describe Proposed Operations: Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program. See attachments for details Kraken Operating, LLC requests variance to not run open hole logs on the subject well. Offset logs can be found for the Charger Resources, LLC, W Knudsen #1, API 250852154500, Sec 28-T28N-R58E, Roosevelt Co, MT. Trille BOARD USE ONLY The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) Title Sr. Regulatory Analyst Telephone Number 713-380-7705 EXT. 156 Trills Permit is subject to it and delivered prepaid to: Montains Board of Oil and Gas Conservation Montains Board of Oil and Gas Conservation Montans Board of Oil and Gas Conservation Montans Board of Oil and Gas Conservation	Operator: Kral	ken Operating LL	С						
Telephone Number: 281-659-4048 N/A Surface Location of Well (quarter-quarter and footage measurements): NENW Sec 27 T28N R58E, 1060' FNL 2267' FWL Bakken To 20,650' MN, 9,930' TVD NWNW Sec 15 T28N R58E, 205' FNL, 550' FWL Size and description of drilling/spacing unit and applicable order, if any: 1280 acres (Sections 15 & 22, T28N-R58E)/Order 9-2019 Hole Size Casing Size Weight/ Foot Grade (API) 13 1/2 9 5/8 36 J-55 2000 642 See Attached 8 3/4 7 32# P-110 10469 672 See Attached 6 4 1/2 13.5# P-110 20650 563 See Attached 6 4 1/2 13.5# P-110 20650 563 See Attached 9 5/14/2019 BOARD USE ONLY Kraken Operating, LLC requests variance to not run open hole logs on the subject well. Offset logs can be found for the Charger Resources, LLC, W Knudsen #1, API 250852154500, Sec 28-T28N-R58E, Roosevelt Co, MT. BOARD USE ONLY This PEARM Is SUBJECT TO THE API Number: 25 085 22003 ALL PROMISE FROM Permit Expires NON 3 1 2019 FIRE PERMIT IS SUBJECT TO THE API Number: 25 085 22003 ALL FROM From Surger Avade, dried and delivered prepaid to: Montana Board of Oil and Gas Conservation 2839 St. Johns Avadue From Surgers Required: Montana Board of Oil and Gas Conservation 2835 St. Johns Avadue Permit St. Johns Avadue Permit St. Johns Avadue FROM From Surgers Required: Montana Board of Oil and Gas Conservation Wontana Board of Oil and Gas Conservation	Address: 9805	Katy Freeway Su	uite 300			vvildcat			
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NENW Sec 27 T28N R58E, 1060' FNL 2267' FWL Bakken Township, Range, and Section: Sec 27 T28N R58E, 205' FNL, 550' FWL NWNW Sec 15 T28N R58E, 205' FNL, 550' FWL Size and description of drilling/spacing unit and applicable order, if any: 1280 acres (Sections 15 & 22, T28N-R58E)/Order 9-2019 Hole Size Casing Size Weight/ Foot Grade (API) 13 1/2 13 1/2 14 9 5/8 15 2000 15 2000 16 42 18 26 Attached 18 3/4 17 32# P-110 10 469 16 4 1/2 13 .5# P-110 10 469 16 72 18 See Attached Describe or attach labeled diagram of biowout preventer equipment. Indicate if air drilled or describe mud program. See attachments for details Kraken Operating, LLC requests variance to not run open hole logs on the subject well. Offset logs can be found for the Charger Resources, LLC, W Knudsen #1, API 250852154500, Sec 28-T28N-R58E, Roosevelt Co, MT. The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) Permit Expires NIV 3 1 2019 Permit Expires NIV 3 1 2019 Permit Number 32-105 Trile Sr. Regulatory Analyst Tile Sr. Regulatory Anal	Telephone Nun	nber: 28	1-658-4048			N/A			
Proposed Total Depth and Bottom-hole Location(s) if directional or horizontal well: To 20,650' MD, 9,930' TVD NWNW Sec 15 T28N R58E, 205' FNL, 550' FWL Size and description of drilling/spacing unit and applicable order, if any: 1280 acres (Sections 15 & 22, T28N-R58E)/Order 9-2019 Hole Size Casing Size Weight / Foot Grade (API) Depth Sacks of Cement Type of Cement 13 1/2 9 5/8 36 J-55 2000 642 See Attached 8 3/4 7 32# P-110 10469 672 See Attached Describe Proposed Operations: Describe or altach labeled diagram of biowout preventer equipment. Indicate if sir drilled or describe mud program. See attachments for details Kraken Operating, LLC requests variance to not run open hole logs on the subject well. Offset logs can be found for the Charger Resources, LLC, W Knudsen #1, API 250852154500, Sec 28-T28N-R58E, Roosevelt Co, MT. BOARD USE ONLY Approved (date) Permit Expires NOV 3 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Surface Location of W	/ell (quarter-quarter and	footage measurements):			Objective Fo	ormation(s):		
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TD 20,656' MD, 9,930' TVD NWNW Sec 15 T28N R58E, 205' FNL, 550' FWL Size and description of drilling/spacing unit and applicable order, if any: 1280 acres (Sections 15 & 22, T28N-R58E)/Order 9-2019 Bakken 1280 acres (Sections 15 & 22, T28N-R58E)/Order 9-2019 Hole Size Casing Size Weight / Foot Grade (API) Depth Sacks of Cement Type of Cement 13 1/2 9 5/8 36 J-55 2000 642 See Attached 8 3/4 7 32# P-110 10469 672 See Attached 6 4 1/2 13.5# P-110 20650 563 See Attached Describe Proposed Operations: Describe or attach belied diagram of blowout preventer equipment. Indicate if air drilled or describe mud program. See attachments for details Kraken Operating, LLC requests variance to not run open hole logs on the subject well. Offset logs can be found for the Charger Resources, LLC, W Knudsen #1, API 250852154500, Sec 28-T28N-R58E, Roosevelt Co, MT. The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) The permit Expires NOV 3 1 2019 The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) The permit Runner 25-085						Township, F	Range, and Sectio	n:	
NWNW Sec 15 T28N R58E, 205' FNL, 550' FWL County: Roosevelt County, MT			on(s) if directional or horizo	ntal well:		Sec 27 T	28N R58E		
Roosevelt County, MT Elevation (indicate GL or KB): 1980' GL Size and description of drilling/spacing unit and applicable order, if any:						County:			
Elevation (indicate GL or KB): 1980' GL Size and description of drilling/spacing unit and applicable order, if any: 1280 acres (Sections 15 & 22, T28N-R58E)/Order 9-2019 Bakken 6/15/2019 Hole Size Casing Size Weight / Foot Grade (API) 13 1/2 9 5/8 36 J-55 2000 642 See Attached 8 3/4 7 32# P-110 10469 672 See Attached 6 4 1/2 13.5# P-110 20650 563 See Attached Describe Proposed Operations: Describe Proposed Operations: Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program. See attachments for details Kraken Operating, LLC requests variance to not run open hole logs on the subject well. Offset logs can be found for the Charger Resources, LLC, W Knudsen #1, API 250852154500, Sec 28-T28N-R58E, Roosevelt Co, MT. BOARD USE ONLY Approved (date) BY Check Number 52.131 Permit Expires NOV 3 1 2019 Permit Expires NOV 3 1 2019 Permit Expires NOV 3 1 2019 Title Subject vell. Offset logs can be found for the Charger contained on this application is true and correct: Signed (Agent) Title Subject TO THE API Number: 25 - 0.65 - 22003 Samples Required: NONE ALL FROM feet to feet to feet to feet Core chips to address below. full cores to USGS, Core Laboratory, Arvada, CO. Required samples must be washed, dried and delivered prepaid to: Montana Board of Oil and Gas Conservation S2535 St. Johns Avenue	NVVNVV Sec 15	5 128N R58E, 205	FNL, 550' FWL			Rooseve	It County, MT		
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Check Number 5213H Permit Expires NOV 3 1 2019 Permit Expires NOV 3 1 2019 Permit Expires NOV 3 1 2019 Permit Number 32405 Title Sr. Regulatory Analyst Title Sr. Regulatory Analyst Date 5/14/2019 Telephone Number 713-360-7705 EXT. 156 Samples Required: NONE X ALL FROM feet to feet Core chips to address below, full cores to USGS, Core Laboratory, Arvada, CO. Required samples must be washed, dried and delivered prepaid to: Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue	# 150 0Q								
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THIS PERMIT IS SUBJECT TO THE CONDITIONS OF APPROVAL STATED ON THE BACK API Number: 25 - 085 - 22003 Date 5/14/2019 Telephone Number 713-360-7705 EXT. 156 Samples Required: NONE X ALL FROM feet to feet Core chips to address below, full cores to USGS, Core Laboratory, Arvada, CO. Required samples must be washed, dried and delivered prepaid to: Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue	Permit Expires NOV 3 1 2019				9		Ca Day	an Analust	
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SUPPLEMENTAL INFORMATION

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Note: Additional information or attachments may be required by Rule or by special request.

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

- 1. Attach a survey plat certified by a registered surveyor. The survey plat must show the location of the well with reference to the nearest lines of an established public survey.
- 2. Attach an 8 1/2 x 11" photocopy of that portion of a topographic map showing the well location, the access route from county or other established roads, residences, and water wells within a 1/2 mile radius of the well.
- 3. Attach a sketch of the well site showing the dimensions and orientation of the site, the size and location of pits, topsoil stockpile, and the estimated cut/fill at the corners and centerstake. (Note: the diagram need not be done by an engineer or surveyor). Attach a sketch of a top view and two side views of the reserve pit(s), if utilized. The reserve pit sketch must show the length, width, depth, cut and fill, amount of freeboard, area of topsoil stockpile, and the height and width of berms.
- 4. Describe the type and amount of material or liner, if any, to be used to seal the reserve pit. If a synthetic liner is used, indicate the liner thickness (mils), bursting strength, tensile strength, tear strength, puncture resistance, hydrostatic resistance, or attach the manufacturer's specifications.
- 5. Describe the proposed plan for the treatment and/or the disposal of reserve pit fluids and solids after the well is drilled. If the operator intends to dispose of or treat the reserve pit contents off-site, specify the location and the method of waste treatment and disposal. (Note: The operator must comply with all applicable federal, state, county, and local laws and regulations with regard to the handling, transportation, treatment, and disposal of solid wastes.)

6. Does construction of the access road or location, or some other aspect of the drilling operation require additional

NOTICES:

- 1. Date and time of spudding must be reported to the Board verbally or in writing within 72 hours after the commencement of drilling operations.
- 2. The operator must give notice of drilling operations to the surface owner as required by Section 82-10-503, MCA, before the commencement of any surface activity.

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CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

WARNING: Failure to comply with conditions of approval may void this permit.



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MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Kraken Operating, LLC Proposed Well Stimulation

Total Clean Fluid - 235,000 bbls

Maximum Anticipated Treating Pressure – 9,800 psi

Hydraulic Fracturing Fluid Components Information Disclosure:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #1	Maximum Ingredient Concentration in Additive (% by mass)***	Mass per Component (LBS)	Maximum (naredient Concentration in HF Fluid (% by mass)***
Water	Operator	Carrier	Carrier	7732-18-5	100.00%	82,315,800,00	84.06572%
Surf-Flo 430	Innospec	Flowback Additive	MSDS and Non-MSDS Ingredients Listed Below			7.435.80	0.00759%
FRP-1S	Liberty Oilfield Services	Friction reduction	MSDS and Non-MSDS Ingredients Listed Below			252,853.79	0.25823%
DV A-75	Liberty Oilfield Services	Diverting Agent	MSDS and Non-MSDS Ingredients Listed Below			469.00	0.00048%
Bioclear 5000	Lubrizol	Biocide	MSDS and Non-MSDS Ingredients Listed Below			8_387_32	0.00857%
ScaleCease 7103	Innospec	Scale Inhibitor	MSDS and Non-MSDS Ingredients Listed Below			15,850,17	0.01619%
HCL-15	Liberty Oilfield Services	Solvent	MSDS and Non-MSDS Ingredients Listed Below			17 295 26	0.01766%
ACI-300	WST	Corresion Inhibitor	MSDS and Non-MSDS Ingredients Listed Below			67.43	0.00007%
WA-100	WST	Wetting Agent	MSDS and Non-MSDS Ingredients Listed Below			34.79	0.00004%
IC-50S	WST	Iron Control	MSDS and Non-MSDS Ingredients Listed Below			125,74	0.00013%
Liberty Clean Out	Liberty Oilfield Services	Cleanup Solution	MSDS and Non-MSDS Ingredients Listed Below			74.86	0.00008%
Crystalline Silica	Liberty Oilfield Services	Sand	MSDS and Non-MSDS Ingredients Listed Below			15,300,000.00	15.62526%
The trade name(s)	of the additive(s) used, sur	oplier(s), and the purpose(s) of the add	itive(s) are listed above. The ingredient(s) for the above additive	(s) are listed below.			
	Liberty Oilfield Services	Sand	Crystalline Silica (quartz)	14808-60-7	99.90%	15.284,700.00	15.60963%
	Liberty Oilfield Services	Sand	Aluminum Oxide	1344-28-1	L00%	153,000.00	0.15625%
	Liberty Oilfield Services	Friction reduction	Petroleum distillates, hydrotreated light	64742-47-8	45,00%	113,784,20	0.11620%
	Liberty Oilfield Services	Sand	Iron Oxide	1309-37-1	0.10%	15,300,00	0.01563%
	Liberty Oilfield Services	Sand	Titanium Oxide	13463-67-7	0.10%	15,300,00	0.01563%
	Innospec	Scale Inhibitor	Water	7732-18-5	95.00%	15,057,66	0.01538%
	Liberty Oilfield Services	Solvent	Water	7732-18-5	85.00%	14,700.97	0.01501%
	Liberty Oilfield Services	Friction reduction	Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched	69011-36-5	3.00%	7,585.61	0.00775%
	Innospec	Flowback Additive	Water	7732-18-5	95.00%	7,064.01	0.00721%
	Liberty Oilfield Services	Solvent	Hydrochloric Acid	7647-01-0	15.00%	2,594.29	0.00265%
	Lubrizol	Biocide	2.2-dibromo-3-nitriloproprionamide	10222-01-2	10.00%	838.73	0.00086%
	Innospec	Scale Inhibitor	BHMT Phosphonate	Proprietary	5.00%	792.51	0.00081%
	Innospec	Scale Inhibitor	Proprietary Ingredient	Proprietary	5.00%	792.51	0.00081%
	Innospec	Flowback Additive	Benzenesulfonic Acid, dodecyl-cmpd, with 2-aminoethanol	26836-07-7	10.00%	743.58	0.00076%
	Innospec	Flowback Additive	Dodecylbenzene sulfonate, triethanolamine salt	27323-41-7	10.00%	743,58	0.00076%
	Liberty Oilfield Services	Diverting Agent	Polylactide Resin	9051-89-2	100.00%	469.00	0.00048%
	Innospec	Flowback Additive	Sodium Alpha Olefin Sulfonate	68439-57-6	5.00%	371.79	0.00038%
	WST	Iron Control	12-hydroxypropane-1.2.3-tricarboxylic acid	77-92-9	60.00%	75.45	0.00008%
	Liberty Oilfield Services	Cleanup Solution	Oxygenate and paraffinic stream	876065-86-0	99_00%	74.11	0.00008%
	WST	Wetting Agent	Ethoxylated Decyl Alcohol	78330-20-8	40.00%	13.92	0.00001%
	WST	Corrosion Inhibitor	2-Propyn-1-ol compound with methyloxirane	38172-91-7	15.00%	10.11	0.00001%
	Liberty Oilfield Services	Cleanup Solution	C.I. Solvent Yellow 33	8003-22-3	1.00%	0.75	0.00000%
	Innospec	Flowback Additive	Triethanolamine	103-71-6	0.01%	0.67	0.00000%
	Innospec	Flowback Additive	Ethanolamine	141-43-5	0.01%	0.67	0.00000%